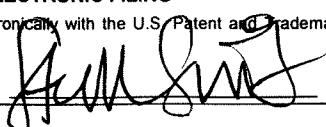


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Signature: 

**BRINKS  
HOFER  
GILSON  
& LIONE**

**Our Case No. 10710-213  
(PTG 1133 PUS)**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of: )  
Peot et al. )  
Serial No. 10/720,990 ) Examiner: Alie  
Filing Date: November 24, 2003 ) Group Art Unit No. 3724  
For: TABLE SAW WITH CUTTING TOOL )  
RETRACTION SYSTEM )

**APPEAL BRIEF**

Mail Stop Appeal Brief – Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sirs:

In accordance with the final rejection of pending claims 1-15 mailed on November 17, 2006, Appellants have filed this Appeal Brief. Appellants previously filed a Pre-Appeal Brief Request for Review on February 15, 2007 along with a Notice of Appeal. The United States Patent & Trademark Office mailed its decision on April 11, 2007 sending this case to the Board of Patent Appeals and Interferences for review. This brief is timely filed within one month from the mailing date of the Pre-Appeal Conference decision.

## TABLE OF CONTENTS

I.	Real Party in Interest	3
II.	Related Appeals and Interferences	3
III.	Status of Claims	3
IV.	Status of Amendments	3
V.	Summary of Claimed Subject Matter	3
VI.	Grounds of Rejection to be Reviewed on Appeal	4
VII.	Argument	5
VIII.	Claims Appendix (Claims 1-18)	13
IX.	Evidence Appendix	16
X.	Related Proceedings Appendix	17

This is an appeal from the final rejection of all pending claims in the final Office Action dated November 17, 2006. This brief is timely filed within one month of the April 11, 2007 mailing date of the Notice of Panel Decision from the Pre-Appeal Review.

### **I. Real Party in Interest**

The real party in interest is the assignee of this application, Eastway Fair Company Limited, of Tortola, British Virgin Islands.

### **II. Related Appeals and Interferences**

There are no related appeals or interferences that would affect, be affected by, or have a bearing upon, the Board's decision in the present appeal.

### **III. Status of Claims**

Claims 1-15 are pending in this application and have been finally rejected. The rejection of Claims 1-15 are hereby appealed. Claims 16-18 have been withdrawn from prosecution in response to a restriction requirement. A copy of the claims is provided in Section VIII.

### **IV. Status of Amendments**

The last Amendment filed in this case was transmitted by the Appellants on August 24, 2006 and received by the USPTO on August 28, 2006, in response to the non-final office action mailed on June 7, 2006. The Amendment was entered according to the Final Rejection mailed on November 17, 2006.

### **V. Summary of Claimed Subject Matter**

An understanding of the invention of independent claim 1 and subsequent dependent claims 2-15 can be made upon a review of the embodiments of the invention, as best shown in FIGs. 1-6. These figures illustrate a table saw (10) with a working table (24) and a cutting tool (150) that is driven by a motor (140). The saw blade (150) extends through an opening in the working table (24). The table saw (10) includes a control subsystem (40) with a detection system (50), a logic controller (50),

and a reaction subsystem (70). See FIG. 3. The detection system (50) is capable of detecting when a human body or portion thereof is in close proximity to the opening in the working table or a blade cover (28). See paragraph [0013]. The control system (40) is configured to retract the blade (150) from a position extending above the top of the table (24) to a position below the table (24) when the detection system (50) senses a dangerous condition.

The motor (140) indirectly drives the blade (150) through an arbor (152) upon which the blade (150) is secured. A drive (144) such as a belt or split-apart gear box connects the motor shaft (142) with the blade arbor (152). See FIGs. 4-6, paragraph [0022]. The blade arbor (152) is carried on a swing arm (160) that is pivotal between a blade operating position (FIG. 5) and a blade retracted position (FIG. 6) where the saw blade is below the top surface of the table (24). See paragraph [0023]. The motor (140), blade (150) and the swing arm (160) are each mounted to a trunion (100) with the motor (140) mounted the first side of the trunion (100) and the cutting blade (150), swing arm (160) and arbor (152) mounted to the opposite side of the trunion (100). Because the motor (140) and the blade (150) are indirectly connected, when the blade (150) is dropped or retracted, the blade (150) is no longer in driving engagement with the motor (140), which allows the blade (150) to stop spinning and eliminate the need to dissipate energy from the spinning motor (140). See paragraph [0019].

A restraining mechanism (170) is associated with the swing arm (160) to prevent the swing arm (160) from moving to the blade retracted position. See paragraphs [0024] – [0027]. The retraction system (76) includes an actuator (180) that provides a downward force on the swing arm (160) to overcome the restraining force of the restraining mechanism (170) to move the swing arm (160) downward and the saw blade (150) below the top surface of the table (24).

## **VI. Grounds of Rejection to be Reviewed on Appeal**

The issues on appeal are whether there was error in the final rejection of claims 1-5 (Group I) as being obvious under 35 U.S.C. § 103(a) based on U.S. Published Application No. 2002/0020265 to Gass (“Gass”) in view of U.S. Patent No. 2,674,130 to Spychalla (“Spychalla”) and based on the combination of Spychalla in view of Gass.

A second issue on appeal is whether there was error in the final rejection of claims 6-15 (Group II) as being obvious over the combinations of Gass in view of Spychalla and Spychalla in view of Gass.

## **VII. Argument**

Appellants request that the Board reverse the final rejection of Claims 1-15, for at least the reason that the cited references do not teach or render obvious all the limitations of the claims. Arguments for specific claim groups are presented in the separate headings below.

### **A. Claims 1-5**

Claim 1 was rejected under 35 U.S.C. §103(a) as being obvious over a combination of Gass in view of Spychalla and a second combination of Spychalla in view of Gass. This rejection is erroneous and should be reversed. Claims 2-5 each ultimately depend from claim 1. The Examiner fails to establish a *prima facia* case of obviousness of claim 1 because there is no reason that one skilled in the art would have combined Gass and Spychalla. Moreover, even if Gass and Spychalla could be properly combined, the combination of these references does not disclose or suggest all of the limitations of independent claim 1, much less dependent claims 2-5.

#### **i. The Cited Art Does Not Disclose or Suggest All of the Limitations of Claims 1-5**

Neither Gass nor Spychalla disclose or suggest a table saw comprising a motor driving a cutting tool, a detection system adapted to detect one or more conditions, and a reaction system configured to retract the cutting tool at least partially away from a cutting region and disengage the motor driving the cutting tool upon detection of the condition, wherein the cutting tool retracts independently of the motor, as claimed in claim 1.

Gass discloses multiple embodiments of cutting tools that include detection systems and reaction systems that withdraw a cutting tool from a cutting zone when the detection system senses a dangerous condition. All of the embodiments disclosed or suggested by Gass include a cutting tool on an arbor that is directly

connected to a motor. See e.g. Gass FIGs. 5-8; paragraphs [0022], [0024], [0027]. Accordingly, the reaction system must translate both the cutting tool and the motor concurrently upon sensing a dangerous condition. Further, Gass discloses a braking system that prevents rotation of the cutting tool, which when applied must also counteract the torque and inertia of the motor shaft directly connected to the cutting tool. See Gass paragraph [0032]. Gass does not disclose or suggest the improvement of disengaging the motor from the cutting tool when the detection system senses a condition, and does not disclose that the cutting tool retracts from the cutting zone independently of the motor.

The claimed structure is preferable to Gass (and is novel and unobvious over Gass, in combination with Spychalla) because the claimed reaction system only retracts the cutting tool (and not the motor) from the cutting region upon detection of a condition. This allows the retraction system to be smaller and simpler because it must only retract the cutting tool and not the relatively heavy motor and associated structure that drives the movable cutting tool.

Spychalla does not disclose or suggest all of the claimed structure that is absent from Gass. Spychalla discloses a portable machine tool with a single motor (88) that selectively provides torque to many different rotary tools through independent belt drives. Spychalla discloses a circular saw (39), a sanding disc (101), and a grinding wheel (29) that each are connected to the motor with independent belt drives (110', 110'', 110, respectively). The specification states that “[i]t is only necessary to engage or disengage the belts from the pulleys in order to make the machine tool active or inactive, and only one tool at a time can be used.” Spychalla, Col. 5, ll. 9-13. Spychalla discloses that the sanding disc is retractable from the cutting region by way of a rotatable arm (99). When the arm is retracted or the motor is moved along a set of rails (89) the belt tension is modified, which selectively actuates or deactuates the sanding disc. Spychalla, Col. 5, ll. 5-9.

Spychalla only discloses that the position of the cutting tool or the motor can be modified manually by the user to alter the functionality of the tool. Specifically, the position of the sanding disc may be modified by rotating the arm after the user loosens a nut (106) to allow the nut and a bolt (105) to be removed from a slot (108) in the arm. See FIG. 10-11; Col. 4, line 67 – Col. 5, line 17. Spychalla does not

disclose or suggest that it is possible to automatically disengage the cutting tool from the motor and retract the cutting tool from the cutting region independently of the motor, let alone any structure to allow the Spychalla tool to do so. Spychalla does not disclose that any components of the tool can be moved or disconnected without the user physically moving the components of the tool, let alone that it is possible to retract the cutting tool from the cutting region upon detection of a condition by a detection system or any other type of sensing system. In fact, Spychalla does not include anything remotely similar to a detection system.

In contrast, if the user of Spychalla was forced to manually disengage the cutting tool from the motor and retract the cutting tool from the cutting region independent of the motor after the detection system of Gass detected a condition, the user would be forced to loosen the bolt and manually swing the arm to move the cutting wheel from the cutting zone. The user would have likely cut their finger (or other foreign object that was detected by the detection system) during the finite period of time required to move the Spychalla cutting wheel to a safe position away from the cutting zone.

Accordingly, because the combination of Gass and Spychalla does not disclose or suggest all of the limitations of independent claim 1, there is no *prima facia* case of obviousness and Applicants request that the obviousness rejections of claim 1 should be reversed.

ii. There Is No Reason Why One of Skill in the Art Would Have Combined Gass and Spychalla

There is no reason why one of ordinary skill in the art would have combined Gass and Spychalla and therefore the combination of these two references is improper. See *KSR International Co. v. Teleflex Inc.*, 04-1350, 550 U.S. \_\_\_, slip op. at 14 (U.S. Supreme Court, April 30, 2007). While Gass discloses the general concept of moving a cutting tool away from a cutting region when the detection system senses a dangerous condition (i.e. an object is in close proximity to the cutting tool) and Spychalla discloses a cutting tool that is indirectly rotated by a motor and movable with respect to the cutting zone, the two references are related to

each other only to the extent that they deal with rotating cutting tools, and one of ordinary skill in the art could not have been reasonably expected to combine them.

Gass and Spychalla are directed to significantly different aspects of rotating cutting systems, and neither Gass nor Spychalla provide an explicit or implicit teaching that could have rationally led to their combination. Specifically, Spychalla's cutting tools are movable with respect to the cutting zone and connected to the motor shaft with dedicated belts because Spychalla provides a single motor to operate all of the independent cutting tools. Spychalla provides structure to move the cutting tools because it would be inappropriate to operate all of the cutting tools at the same time.

Gass provides a safety system that moves a cutting tool away from the cutting zone when a dangerous condition is detected. Gass is not concerned with moving the cutting tool away from the cutting zone to allow for another separate cutting tool to be operated by the same motor. In fact, proper operation of Gass' safety system requires that the cutting tool be mounted in a consistent position or range of positions with respect to the cutting surface. For example, Gass discloses several embodiments with reaction subsystems (24) that include brake mechanisms (28) and retraction mechanisms (e.g. 1206, FIG. 8). The proper operation of these systems necessarily requires that the cutting tool be in precise and consistent positions within the cutting zone for proper operation of the brake and/or retraction mechanism within the time parameters required to achieve Gass' goal of rapid movement of the cutting tool away from the cutting zone upon detection of a dangerous condition (i.e. a finger in the vicinity of the rotating saw blade). This plainly teaches away from a combination with Spychalla's rotatable sanding disc on the arm.

Moreover, the Examiner's statement in the Final Rejection that the direct drive transmission of Gass and the indirect drive transmission of Spychalla are functionally equivalent remains unsupported by objective evidence, notwithstanding the statements provided in pages 7-8 therein. The direct drive mechanism of Gass and the belt drive of Spychalla operate in significantly different ways and are provided for significantly different reasons when these references are taken as a whole. MPEP § 2141.02. Because this assertion is not supported by objective evidence, it cannot

lead to or be included in a conclusion that the references render the claimed invention obvious.

Further, even if one or ordinary skill in the art would have a reason to combine Gass and Spychalla, the resulting machine would be unsuitable for its intended purpose; Gass's purpose is to provide automatic protection to the user if they come into close contact with the cutting tool. MPEP § 2145(X)(D)(2). Because Spychalla's cutting tool requires manual operator action to rotate the specific tool engaged with the motor from the cutting zone, placing Spychalla's belt drive and movable cutting tool on Gass would render a saw blade that no longer automatically moved from the cutting zone when a dangerous condition was detected. For this additional reason, Spychalla teaches away from combination with Gass and the combination of these two references (whether Gass or Spychalla is used as the primary reference) is improper.

Because one of ordinary skill would not have a reason to combine Gass and Spychalla, and because any combination of these two designs would produce a machine that is unsuitable for Gass' intended purpose of providing a safety system for a saw, there can be no *prima facia* case of obviousness and Applicants respectfully request that the rejection of claims 1-5 be reversed.

B. Claims 6-15

Claims 6-15 were each rejected as being obvious over combinations of Gass in view of Spychalla and Spychalla and Gass. Claims 6-15 each ultimately depend from claim 1, which is patentable over the combinations of Gass and Spychalla for the reasons discussed above, and are further patentable for the reasons discussed herein. Claims 6-15 each further depend from claim 5, which requires a trunion that carries the motor and the cutting tool.

For the reasons discussed above, the rejection of claims 6-15 is improper because there is no reason that one of ordinary skill in the art would have combined Gass and Spychalla. Moreover, even if Gass and Spychalla could be properly combined, the combination of these references does not disclose or suggest all of the limitations of dependent claim 6, much less dependent claims 7-15 that ultimately depend therefrom. Claim 6 requires that the trunion have a first side and a second

side and that the cutting tool be mounted on the first side and the motor is mounted on the second side. Neither Gass nor Spychalla disclose or suggest this structure.

As shown in FIGs. 5-8 of Gass, the moving components of the tool (i.e. the saw blade (40), the arbor block (1182), the linkage (24), etc.) each appear to be mounted to a first side of an upstanding member (no element provided and shown in the figures as a rectangular outline around the components). The motor is not shown in these figures but the motor shaft is directly mounted to the saw blade, as discussed above. The Gass specification is silent with respect to this structure and the figures show no slot through the member, which would be required to receive the motor shaft that connects to the saw blade (40) if it did, in fact, extend through the trunion to allow the saw blade to pivot as shown in the figures. Gass does not provide any discussion of the function or geometry of this member, let alone that a motor is provided on a first side of the member and the cutting tool is located on the opposite side.

As best shown in FIGs. 1 of Spychalla, a single motor (88) is provided for selective operation with a plurality of rotary tools, such as a sanding disk (102, with further reference to FIGs. 10 and 11) and a saw (39), which are pivotable with respect to the top surface of the tool. Spychalla does not disclose any structure similar to a trunion with a cutting tool mounted on a first side and a motor mounted on a second side as claimed. In fact, with reference to the marked copy of FIG. 1 provided below, the sanding disk (102) and the saw (39) each appear to be on the same side of the structural members of the Spychalla tool (with portions circled with a red dashed line) that are most similar to the claimed trunion.

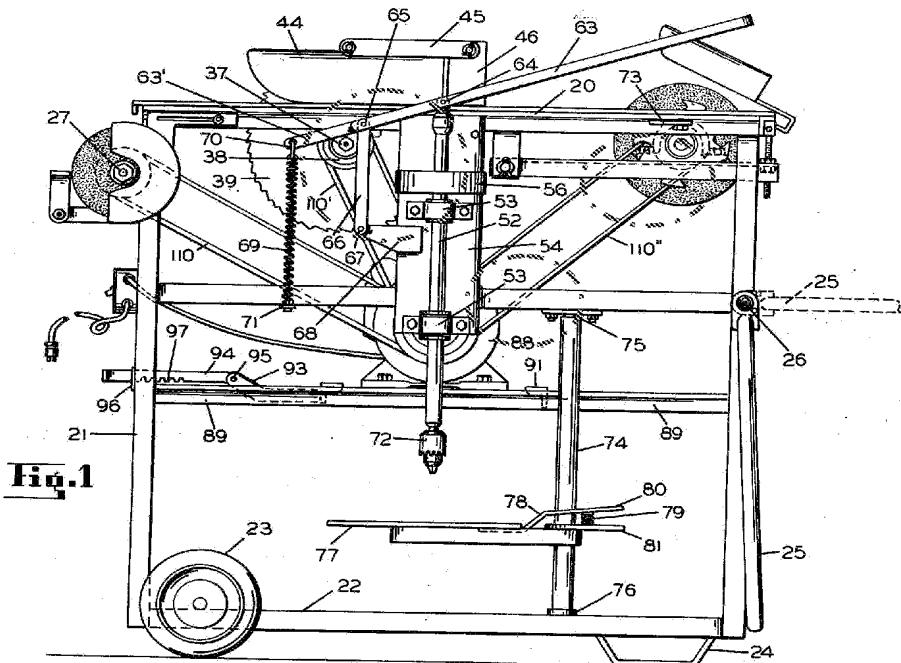


Fig.1

The belts 110' and 110" each are shown extending behind all of the structural members (as evidence by the broken lines extending through some of the members) of the tool, which one of ordinary skill would understand shows that the motor and the cutting tools are each located on the same side of the structural components of Spychalla because the view of the motor in FIG. 1 is partially blocked by these structures. Because neither Gass nor Spychalla disclose the claimed structure of claim 6, Applicants respectfully request that the rejection of claims 6-15 be reversed.

Appl. No. 10/720,990  
Notice of Appeal Filed February 15, 2007

10710/213  
PTG 1133 PUS

In view of the above remarks, Appellants submit that the claimed invention is patentable in view of the cited references of record. Appellants therefore request reversal of the rejections of Claims 1-15.

Respectfully submitted,



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### **VIII. Claims Appendix**

1. (Previously Amended) A table saw having a cutting region for cutting workpieces, comprising:
  - a. a motor driving a movable cutting tool for cutting workpieces in the cutting region;
  - b. a detection system adapted to detect one or more conditions; and
  - c. a reaction system associated with the detection system and the cutting tool wherein the reaction system is configured to retract the cutting tool at least partially away from the cutting region and to disengage the motor from driving the cutting tool upon detection of at least one of one or more conditions by the detection system, wherein the cutting tool retracts independently of the motor.
2. (Original) The table saw of claim 1 wherein the one of more conditions is proximity between a person and the cutting tool.
3. (Original) The table saw of claim 1 wherein the motor indirectly drives the cutting tool.
4. (Original) The table saw of claim 3 comprising a belt to drivingly connect the motor with the cutting tool when the cutting tool is in the cutting region.
5. (Original) The table saw of claim 1 further comprising a trunion that carries the motor and the cutting tool.
6. (Original) The table saw of claim 5 wherein the trunion has a first side and a second side and wherein the cutting tool is mounted on the first side and the motor is mounted on the second side.
7. (Original) The table saw of claim 6 further comprising:
  - a. a motor shaft extending from the motor to the first side of the trunion;
  - b. an arbor carrying the cutting tool; and, c. a drive connecting the arbor and the shaft.

8. (Original) The table saw of claim 7 wherein the arbor is movable with respect to a top of the trunion.
9. (Original) The table saw of claim 8 wherein the arbor is in a driving engagement with the motor when the arbor is in a first position such that the cutting tool is in the cutting region.
10. (Original) The table saw of claim 9 wherein the arbor is out of driving engagement with the motor when the cutting tool is retracted.
11. (Original) The table saw of claim 10 further comprising a swing arm pivotally connected to the first side of the trunion near a front of the trunion, wherein the swing arm has a first end and a second end such that the swing arm pivots about the first end.
12. (Original) The table saw of claim 11 wherein the swing arm moves independently of the motor.
13. (Original) The table saw of claim 11 further comprising a restraining mechanism associated with the first side of the trunion and the second end of the swing arm, wherein the restraining mechanism provides a force to retain the cutting tool in the cutting region.
14. (Original) The table saw of claim 12 further comprising an actuator to act on the second end of the swing arm with a force sufficient to overcome the force provided by the restraining mechanism.
15. (Original) The table saw of claim 13 further comprising a stop provided on the first side of the trunion such that the swing arm is in contact with the stop when the cutting tool is retracted.
16. (Withdrawn) A table saw comprising:

- a. a frame adapted to support a workpiece in a cutting region;
- b. a movable cutting tool supported by the frame and configured to cut the workpiece in the cutting region;
- c. a motor configured to indirectly drive the cutting tool;
- d. a detection system configured to detect one or more conditions between a person and the cutting tool; and
- e. a reaction system to cause the cutting tool to move out of the cutting region and to disengage driving engagement of the cutting tool, wherein the cutting tool moves independently of the motor.

17. (Withdrawn) A table saw comprising:

- a. a motor for driving a cutting means for cutting a workpiece;
- b. means for detecting a condition between a person and the cutting means; and
- c. means for retracting the cutting means away from the person in response to such detection of the condition, wherein the means for retracting further causes the cutting means to stop rotating and wherein the cutting means retracts independently of the motor.

18. (Withdrawn) A method for retracting a cutting tool from a table saw having a motor driving a movable cutting tool, the method comprising:

- a. detecting a condition between a person and the cutting tool; and
- b. retracting the cutting tool away from the person independently of any movement of the motor and disengaging driving engagement of the cutting tool in the event of detecting the condition.

Appl. No. 10/720,990  
Notice of Appeal Filed February 15, 2007

10710/213  
PTG 1133 PUS

**IX. Evidence Appendix**      **N/A**

Appl. No. 10/720,990  
Notice of Appeal Filed February 15, 2007

10710/213  
PTG 1133 PUS

X. Related Proceedings Appendix N/A